Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 - 14. (Canceled)

15. (New) A microscopy system for observing an object by plural observers, the system comprising:

at least one objective lens arrangement for receiving an object side beam emanating from an object plane and for transforming the object side beam into an image side beam;

a first ocular system arranged to enable a first observer to observe the object by looking into the first ocular system;

a second ocular system arranged to enable a second observer to observe the object by looking into the second ocular system; and

a controller, wherein the first ocular system comprises:

at least one first ocular tube having at least one first ocular for generating an image of the object plane from the image side beam, and

at least one first image projector having a first display for superimposing an image displayed by the first display with a beam path of the first ocular system such that the image of the object plane is perceived by the first observer in

superposition with the image of the first display, and the second ocular system comprises:

at least one second ocular tube, distinct from the at least one first ocular tube, and having at least one second ocular for generating an image of the object plane from the image side beam, and

at least one second image projector, distinct from the at least one first image projector, and having a second display, distinct from the first display, for superimposing an image displayed by the second display with a beam path of the second ocular system such that the image of the object plane is perceived by the second observer in superposition with the image of the second display, wherein:

at least one optical setting of the first ocular system is adjustable independently of a corresponding optical setting of the second ocular system;

the controller is configured to generate the image displayed by the first display of the first ocular system from a first input image based on the at least one optical setting of the first ocular system, and

the controller is further configured to generate the image displayed by the second display of the second ocular system from the first input image based on the at least one optical setting of the second ocular system.

16. (New) The microscopy system of claim 15, wherein:

the controller is configured to generate the image displayed by the first display of the first ocular system from a second input image independently of the at least one optical setting of the first ocular system, and

the second input image is superimposed with the first input image.

17. (New) The microscopy system of claim 16, wherein the controller is configured to generate the image displayed by the second display of the second ocular system from the second input image independently of the at least one optical setting of the second ocular system.

18. (New) The microscopy system of claim 15, wherein:

the first ocular system comprises a first camera,

the second ocular system comprises a second camera, and

the controller is configured to determine the at least one optical setting of the first ocular system based on a comparison of an image detected by the first camera with an image detected by the second camera.

19. (New) The microscopy system of claim 15, wherein:

the objective lens arrangement has an optical axis,

the first ocular tube of the first ocular system is rotatable about the optical axis,

the at least one optical setting of the first ocular system comprises a rotational position of the first ocular tube about the optical axis, and

the controller is configured to generate the image displayed by the first display of the first ocular system by rotating the first input image by a first image rotation angle determined in dependence of the rotational position of the first ocular tube.

20. (New) The microscopy system of claim 19, further comprising:

an angle detector for detecting an angle of the first ocular tube of the first ocular system relative to a housing of the objective lens arrangement, wherein the controller is configured to determine the first image rotation angle based on the detected angle.

21. (New) The microscopy system of claim 19, wherein:

the first ocular system comprises a first camera, and

the second ocular system comprises a second camera and the controller is configured to determine the first image rotation angle based on a comparison of an image detected by the first camera and an image detected by the second camera.

22. (New) The microscopy system of claim 19, wherein:

the second ocular tube of the second ocular system is rotatable about the optical axis,

the at least one optical setting of the second ocular system comprises a rotational position of the second ocular tube about the optical axis, and

the controller is configured to generate the image displayed by the second display of the second ocular system by rotating the first input image by a second image rotation angle determined in dependence of the rotational position of the second ocular tube.

23. (New) The microscopy system of claim 15, wherein:

the first ocular system comprises a first zoom system for changing a magnification of the image of the object plane generated by the first ocular system independently of a magnification of the image of the object plane generated by the second ocular system,

the at least one optical setting of the first ocular system comprises the magnification of the image generated by the first ocular system, and

the controller is configured to generate the image displayed by the first display of the first ocular system by scaling the first input image with a first scale factor determined in dependence of the magnification of the image generated by the first ocular system.

24. (New) The microscopy system of claim 23, further comprising:

a position sensor for detecting a setting of components of the first zoom system with respect to each other, wherein the controller is configured to determine the first scale factor based on the detected setting.

25. (New) The microscopy system of claim 23, wherein:

the first ocular system comprises a first camera,

the second ocular system comprises a second camera, and

the controller is configured to determine the first scale factor based on a comparison of an image detected the first camera and an image detected by the second camera.

26. (New) The microscopy system of claim 23, wherein:

the second ocular system comprises a second zoom system for changing a magnification of the image of the object plane generated by the second ocular system independently of the magnification of the image of the object plane generated by the first ocular system,

the at least one optical setting of the second ocular system comprises the magnification of the image generated by the second ocular system, and

the controller is configured to generate the image displayed by the second display of the second ocular system by scaling the first input image with a second scale factor determined in dependence of the magnification of the image generated by the second ocular system.

27. (New) The microscopy system of claim 15, wherein the first ocular systems is a binocular system.

28. (New) A microscopy method for displaying a magnified image of an object plane to plural observers, the method comprising:

light optically generating a first image of an object plane using first optics;

light optically generating a second image of the object plane using second optics, the second optics being distinct from the first optics, wherein the first optics has at least one optical parameter which is adjustable independently of a corresponding optical parameter of a second optics;

electronically generating, on a first display, at least one first representation of a first input image based on the at least one optical parameter of the first optics;

displaying the first image of the object plane superimposed with the electronically generated at least one first representation of the first input image;

electronically generating, on a second display, at least one second representation of the first input image based on the at least one optical parameter of the second optics, the second display being distinct from the first display; and

displaying the second image of the object plane superimposed with the electronically generated at least one second representation of the first input image.

29. (New) The microscopy method of claim 28, wherein:

at least a portion of the first optics is rotatable about an axis, and

the electronic generation of the at least one first representation comprises rotating the first input image based on a rotational position of the portion of the first optics.

30. (New) The microscopy method of claim 29, wherein:

at least a portion of the second optics is rotatable about an axis, and

the electronic generation of the at least one second representation comprises rotating the first input image based on a rotational position of the portion of the second optics.

31. (New) The microscopy method of claim 28, wherein:

a magnification of the first optics is changeable, and

the electronic generation of the at least one first representation comprises scaling of the first input image based on the magnification of the first optics.

32. (New) The microscopy method of claim 31, wherein:

a magnification of the second optics is changeable, and

the electronic generation of the at least one second representation comprises scaling of the first input image based on the magnification of the second optics.

33. (New) The microscopy method of claim 28, further comprising:

electronically generating, on the first display, at least one first representation of a second input image independently of the at least one optical parameter of the first optics and superimposed with the at least one first representation of the first input image.

34. (New) The microscopy method of claim 33, further comprising:

electronically generating, on the second display, at least one second representation of the second input image independently of the at least one optical parameter of the second optics and superimposed with the at least one second representation of the first input image.